

particles being further characterized by a rough surface texture having a plurality of surface irregularities generally randomly formed therein;

- (b) said implantation system incorporating a combination of average particle size and average particle texture sufficient to cooperate in an autogenous manner to substantially prevent loss of said particles from an augmentation site, said particles remaining in situ to form part of a permanent implant.

52 81. An injectable particulate implantation system for long-term augmentation of soft tissue, comprising in combination:

- (a) biologically compatible particles of a relatively soft, resilient, material dispersed in a non-retentive compatible physiological vehicle, the particles being further characterized by a rough surface having a plurality of pores generally randomly forming openings therein;
- (b) the particles having an average particle size generally between 30 and 3000 microns with a dimension of the openings formed by the pores within the particles being generally in a range between 10 angstroms and 500 microns;
- (c) the implantation system average particle size and average roughness of texture are sufficient in combination to, in

an autogenous manner, substantially preclude migration of the particles from an augmentation site, the particles remaining in situ to form part of a permanent implant.

53 <sup>4</sup>~~82~~ The injectable implantation system of Claim <sup>3</sup>~~81~~ wherein the particles further comprise an amount of at least one surface modifier to accomplish at least one of assisting in detoxification and promoting tissue ingrowth.

54 <sup>5</sup>~~83~~ The injectable implantation system of Claim <sup>4</sup>~~82~~ wherein the at least one surface modifier is incorporated into the micro particle prior to particle formation.

55 <sup>6</sup>~~84~~ The injectable implantation system of Claim <sup>4</sup>~~82~~ wherein the at least one surface modifier is selected from the group consisting of polyvinyl pyrrolidone, collagen and an hyaluronate.

56 <sup>11</sup>~~85~~ The injectable implantation system of Claim <sup>3</sup>~~81~~ being particularly characterized in that the compatible physiological vehicle is a bodily compatible fluid selected from the group consisting of hydrogels, glucose, starch, silicone fluid, lipid and a hyaluronate.

57 <sup>7</sup>~~86~~ The injectable implantation system of Claim <sup>6</sup>~~84~~ wherein the surface modifier is dispersed in the physiological vehicle.

58 <sup>9</sup>~~87~~ The injectable implantation system of Claim <sup>4</sup>~~82~~ wherein the surface modifier is biologically active.

59 <sup>8</sup>~~88~~ The injectable implantation system of Claim <sup>7</sup>~~86~~ wherein the surface modifier is biologically active.

60 <sup>10</sup> ~~89~~. The injectable implantation system of Claim ~~80~~ <sup>4</sup> wherein the modifier is selected from the group consisting of fibronectin and cytokines.

62 <sup>12</sup> ~~90~~. The injectable implantation system of Claim ~~81~~ <sup>3</sup> being particularly characterized in that the biologically inert particles are formed of bodily compatible solids selected from the group consisting of silicone rubbers, polytetrafluoroethylene, polyethylene, and other biologically inert polymer materials.

64 <sup>10</sup> ~~91~~. The injectable implantation system of Claim ~~81~~ <sup>3</sup> being particularly characterized in that the average particle size is at least 60 microns.

65 <sup>13</sup> ~~92~~. The injectable implantation system of Claim ~~90~~ <sup>12</sup> being particularly characterized in that the average particle size is at least 60 microns.

67 <sup>2</sup> ~~93~~. The injectable implantation system of Claim ~~80~~ <sup>1</sup> being particularly characterized in that the range of average particle size is between 100 microns to 600 microns.

68 <sup>18</sup> ~~94~~. The injectable implantation system of Claim ~~81~~ <sup>3</sup> being particularly characterized in that the range of average particle size is between 100 microns to 600 microns.

69 <sup>15</sup> ~~95~~. The injectable implantation system of Claim ~~90~~ <sup>12</sup> being particularly characterized in that the range of average particle size is between 100 microns to 600 microns.

73 <sup>14</sup> 96. The injectable implantation system of Claim <sup>13</sup> 92 further characterized by micro particles having a textured surface of pores of an average size between about 10 microns and about 200 microns.

75 <sup>17</sup> 97. The injectable implantation system of Claim <sup>16</sup> 91 being particularly characterized in that the biologically inert micro particles are of a generally uniform configuration.

76 98. The injectable particulate implantation system of Claim 97 wherein the micro particles are generally spherical in shape.

*DI Cont*  
~~77~~ <sup>18</sup> 99. A non-migratory injectable particulate implantation system for long-term augmentation of soft tissue, comprising in combination:

- (a) generally soft, resilient biologically inert particles dispersed in a non-retentive compatible physiological vehicle, the particles being further characterized by a surface texture having a plurality of surface irregularities generally randomly formed therein;
- (b) said implantation system having, in combination, an average particle size range and average particle texture such that migration from an injection site is substantially precluded in an autogenous manner and individual particle non-chronic inflammatory scar tissue encapsulation occurs.

*new* 100. An injectable particulate implantation system for long-term augmentation of soft tissue, comprising in combination:

- D/Conclude*
- (a) generally soft, resilient biologically inert implant particles having a generally rough surface dispersed in a non-retentive compatible physiological vehicle, the micro particles being of a generally uniform configuration and being further characterized by a surface texture having a plurality of surface irregularities separated by connective members generally randomly formed therein;
  - (b) the textured particles being formed of materials selected from the group consisting of silicone rubbers, polytetrafluoroethylene, polyethylene, and other biologically inert polymer materials, and having an average particle size generally between 60 and 3000 microns with dimensions of surface irregularities within the particles being generally in a range between 10 angstroms and 500 microns; and
  - (c) said implantation system incorporating an average particle size and average texture roughness to, in combination in an autogenous manner, substantially preclude migration of said particles from an injection site and achieve adequate guidance of fibroblasts such that a scar tissue pattern is developed that assumes a configuration that is generally in accordance with adjacent particle surfaces.